

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Lester F. LUDWIG Serial No.: 10/702,415 Filed: November 6, 2003 Title: SIGNAL PROCESSING FOR TWANG AND RESONANCE Group Art Unit: 2837 Examiner: Marlon T. Fletcher Confirmation No. 8353 Attorney Docket No.: 92046-8727 [2152-3030]	Certificate of Transmission/Mailing I hereby certify that this correspondence is being facsimile transmitted to the USPTO, transmitted via the Office electronic filing system, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below: <u>December 22, 2008</u> /Jeffrey J. Lotspeich/ Date Jeffrey J. Lotspeich Registration No. 45,737 Attorney for Appellant
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REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR § 41.41, this brief is responsive to the Examiner's Answer of October 21, 2008. The filing of this brief is believed timely since it is being filed within the non-extendable two-month time limit (December 21, 2008 falling on a Sunday) set out in 37 CFR § 41.41(a)(1). Accordingly, Appellant submits the following:

1. Overview

Appellant has carefully reviewed the various points set forth in the Examiner's Answer and submits that there remains a number of clear errors in the Examiner's rejections for which Appellant seeks review by the Board. Appellant will now address the various points raised by the Examiner.

2. Related appeals and interferences

The Examiner indicated that an appeal in the following application is related to the present appeal:

09/812,400.

Appellant does not understand why the Examiner did not refer to the six other appeals which were identified on page 3 of the Appeal Brief of 8/12/2008. For the convenience of the Board, presented below is an accurate and complete list of appeals which are believed to be related to the present appeal. Each of these appeals have the same examiner as the present appeal.

Docket No.	App. Ser. No.:	App. filing date:	Appeal filed:
2152-3005	09/812,400	March 19, 2001	January 25, 2007
2152-3014	10/676,926	September 30, 2003	January 31, 2008
2152-3023	10/680,591	October 6, 2003	January 31, 2008
2152-3027	10/702,262	November 5, 2003	January 29, 2007 & March 12, 2008
2152-3026	10/703,023	November 5, 2003	July 25, 2006
2152-3044	11/040,163	January 21, 2005	January 31, 2008

3. Examiner fails to address Appellant's arguments

Appellant explained in Section A.1 of the Appeal Brief of 8/8/2008 (pgs. 9 and 10) that a first error with regard to the rejection to claim 1 relates to the Examiner's failure to respond to any of the four distinctions between claim 1 and the cited Levine (5,848,164) and Okamura (5,652,797) patents. (See also the Response of 1/15/2008, pgs. 10-14).

In the Examiner's Answer, the Examiner simply indicates "It is not necessary to repeat the rejection in the argument response, when the elements are clearly pointed out in the rejection." (Exa. Ans. pg. 6). The Examiner's point is misplaced since Appellant did not ask

the Examiner to repeat the rejection. To the contrary, Appellant indicated that the sparse comments provided by the Examiner on page 5 of the Office Action of 5/12/2008 clearly do not “answer the substance” of the detailed arguments presented by Appellant in the latest Response, which is a clear failure to comply with MPEP § 707.07(f).

Appellant recognizes that the Examiner offers in the Examiner’s Answer a one-sentence explanation relating to Appellant’s arguments concerning the “selectable delay time” feature of claim 1. The Examiner’s position will be addressed in more detail below, but Appellant’s point here is that the Examiner’s comments (one sentence) only address one of several arguments provided by the Appellant and set out in both the Appeal Brief and the Response of 1/15/08.

4. Levine does not teach a plurality of audio signal delays receiving the same incoming audio signal

Section A.3 of Appellant’s Appeal Brief included comments relating to the claim 1 features of “a plurality of audio signal delays, wherein each delay of said plurality of audio signal delays receive signal inputs comprising said incoming audio signal and a distinct high resonance positive feedback signal.”

First of all, the Examiner distorts Appellant’s comments by alleging: “The applicant argues that Levine does not teach a plurality of audio signal delays.” (Exa. Ans. pg. 7). Appellant never takes such a position. To the contrary, Appellant emphasized the distinction that claim 1 requires that “each delay” receive the same incoming audio signal (i.e., “said incoming audio signal”), whereas the alleged delay elements of Levine relate to receiving different signals (subbands 116-1 through 116-32) at each delay element.

A point of contention appears to be centered on the type of signal provided to customized effects filters 128-1 through 128-32. (See Fig. 2 of Levine). The Examiner alleges that each of these filters receive the same audio signal 140, even though audio signal 140 undergoes processing by filter bank 138 before reaching effects filters 128-1 through 128-32. (Exa. Ans. pg. 7). In contrast, Appellant’s position is that Levine clearly shows in Fig. 2 that each effects filter 128-1 through 128-32 receive a different signal (subbands 116-1 through 116-32). (See Appeal Brief of 8/8/2008, pgs. 11 and 12).

Support for Appellant's position is expressly discussed in the cited Levine patent, such that column 3 lines 40-47 provide:

"The analysis filter bank is responsible for compressing, encoding and splitting the fullband fullrate audio input signal into subbands of critically sampled compressed audio data 116. Each subband carries critically sampled data for a distinct frequency range, with the 32 subbands covering the frequency range 0 to 22.05 kHz. (i.e., each subband carries data for a frequency range of about 689 Hz.)" (emphasis added)

The foregoing passage of Levine establishes the following. First, the filter bank is clearly used for splitting the fullband full rate audio signal (i.e., audio signal 140 of Fig. 2) into a subband (i.e., one of subbands 116-1 through 116-32). Each of the thirty-two subband signals (116-1 through 116-32) are distinct, and thus, have entirely different frequency content from each other. In other words, subbands 116-1 through 116-32 are not the same incoming audio signal as required by claim 1. Accordingly, Levine supports Appellant's position and offers nothing in the way to support the Examiner's position.

Appellant now considers that perhaps the Examiner's position is that subbands 116-1 through 116-32 all originate from the same audio input signal 140. However, even if this were correct, this is not what is required by claim 1 which recites that "each delay" receive the same incoming audio signal (i.e., "said incoming audio signal"). The bottom line is that Levine describes subbands 116-1 through 116-32 as relating to different signals. Since these signals of Levine are different, they clearly cannot teach the same incoming audio signal required by claim 1.

5. New Ground of Rejection-- Inherency

The Examiner next offers a new ground rejection based on inherency, and in particular, alleges that "multiple structures of figure 4 could replace the structure of figure 5." (Exa. Ans. para. bridging pgs. 7 and 8). The claimed feature at issue relates to "the same incoming audio signal (i.e., "said incoming audio signal") required by claim 1. This notion of inherency is a new basis of rejection to claim 1, for which Appellant will now take the opportunity to respond.

According to MPEP § 2112, "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." (citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed.

Cir. 1993) (emphasis in original)). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'"

Moreover, "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

Appellant submits that the Examiner has not met the necessary burden for establishing inherency with regard to the claimed same incoming audio signal (i.e., "said incoming audio signal"). The Examiner provides several remarks on pages 7 and 8 of the Examiner's Answer with regard to this newly founded inherency rejection. However, such remarks fail to support the inherency rejection. To establish the clear error in the inherency rejection, Appellant will address each remark offered by the Examiner.

The Examiner first remarked "Inherently, multiple structures of figure 4 could replace the structure of figure 5." (Exa. Ans. pgs. 7 and 8). The Examiner's position is clearly deficient since it fails to identify which structures of figure 4 could be used to replace figure 5. Moreover, even if one could replace the structure of figure 5 with "multiple structures" of figure 4, whatever they may be, then the resulting structure would therefore be some unknown subset of structures of figure 4. In other words, according to the Examiner, it would be inherent to replace figure 5 with multiple (and unknown) components of figure 4. Appellant is therefore left with the task of constructing the rejection to the extent of identifying the so-called inherent features figure 4. Such a rejection is clearly in error.

Furthermore, if figure 5 was indeed replaced, then it would likewise be true that multiple delay line lengths 501 (Fig. 5) receiving the same input would also be replaced. This newly proffered reasoning directly contradicts other portions of the rejection. For instance, on the one hand, the Examiner states that figure 5 shows the use of a single audio input to multiple delay line lengths. (Exa. Ans. pg. 7). However, on the other hand, the Examiner contends that figure 5 could be replaced by components of figure 4. (Exa. Ans. pg. 8). Using the Examiner's reasoning, it therefore would be inherent to replace figure 5, which means that it would be inherent not to use the single audio input of figure 5. Thus,

on this point alone, the Examiner's own reasoning supports Appellant's position that Levine does not teach the same incoming audio signal feature of claim 1.

The Examiner also remarked "Figures 4 and 5 represent customizable subbands." (Exa. Ans. pg. 7). Appellant notes that the Examiner's position is somewhat off point such that Figures 4 and 5 actually depict subband effects filters. (Levine col. 4, lines 13-15). Beyond this technical clarification, Appellant does not understand the significance of the Examiner's comments.

The Examiner further remarked "Therefore, it is clear that multiple flange effect circuits (figure 4) could be used in multiple subbands (figure 7) to provide multiple delays." (Exa. Ans. pg. 8). The Examiner's conclusion entirely misses the point. This so-called conclusion states nothing as to how figure 4 inherently replaces components of figure 5. It simply states that the flange filter of figure 4 could be used in figure 7. Appellant has no quarrel with this since figure 7 of Levine does indeed show flange effect 701 being applied on various subbands. The Examiner's comments merely describe features of figure 7 and provide nothing in the way of establishing inherency.

The Examiner further remarked "Further, figure 5 shows that multiple delays can be used in one subband or effect circuit." (Exa. Ans. pg. 8). Once again, the Examiner simply submits for the record assorted features of Levine that are shown in the figures, and in particular figures 5 and 7. The Examiner's comments fail to establish how it would be inherent for multiple structures of figure 4 to replace the structure of figure 5.

For these reasons, the Examiner therefore failed to establish, in a manner consistent with MPEP § 2112, how the yet-to-be-identified inherent characteristic of Levine necessarily flows from the teachings of this patent. Such shortcomings represent another clear error in the Examiner's rejection.

6. Levine does not teach "selectable delay time corresponding to a period of a desired resonant frequency"

Section A.4 of Appellant's Appeal Brief included comments relating to the claim 1 feature of "wherein each delay . . . include a distinct selectable delay time corresponding to a period of a desired resonant frequency." In particular, page 13 of Appellant's Appeal Brief set forth the position that nowhere does Levine teach, imply, consider, or even

mention the words or concepts of “resonance” and “resonant frequency.” The Examiner’s Answer fails to specifically address Appellant’s position on this claim feature.

Instead, the Examiner elects a new position with regard to this rejection by offering the unsubstantiated definition of the term “resonant frequency.” Specifically, the Examiner alleges that the claim term “resonant frequency” refers to “the enhancement or intensification of sound.”

Appellant is unaware of any authority which defines “resonant frequency” in such a manner. Interestingly, the Examiner failed to cite the source for such a definition. Moreover, the Examiner’s new found position on “resonant frequency” is a confusion of terms – a resonant frequency is a frequency value with a particular property, not a process acting on a sound for enhancement, intensification or otherwise.

The Examiner’s rejection is clearly in error for at least the reason that the Examiner has adopted the definition of the claim term “resonant frequency” without the requisite support for such a definition.

The Examiner also provided comments relating to the purpose of a flange along with the resonant feedback term. Such comments are entirely irrelevant since such comments relate to the Examiner’s misunderstanding of the “resonant frequency” term.

7. Levine does not teach “distinct selectable delay time”

Section A.5 of Appellant’s Appeal Brief included comments relating to the claim 1 feature of “distinct selectable delay time.” (Appeal Brief of 8/8/2008, pg. 14).

Appellant’s position in the Appeal Brief is that Levine sets out the notion of providing delays for each subband that are identical (Levine col. 5 lines 30-60). If delay times are identical (such as they are in Levine) then they cannot therefore be “distinct” as called for in claim 1. The Examiner failed to specifically address this position in the Examiner’s Answer.

While avoiding Appellant’s comments, the Examiner did offer new remarks as to the rejection to this claim element. In particular, the Examiner alleged that “The term ‘distinct’ is met by the use of the delay for various effects or sound enhancements.” (Exa. Ans. pg. 8). Note that this is the first time that the Examiner offers this understanding of the claimed “distinct” term.

As Appellant can best understand, the Examiner appears to imply that the use of different delays over various subband effect filters would result in different (and hence “distinct”) delay times. The Examiner appears to imply that delays of various (yet unspecified) filters of Figs. 3-6 could be different, and thus the “distinct selectable delay time” feature is taught.

Such a rejection is deficient for at least two reasons. First, the current rejection of record does not rely upon some combination of the filters of Figs. 3-6 as teaching the other claim elements of claim 1. Second, Levine does not state that any such delays of Figs. 3-6 are “distinct” or different, and the Examiner does not point to any support for such a position.

8. Okamura does not teach introducing distortion of the combined signal

Section A.6 of Appellant’s Appeal Brief included comments relating to the claim 1 feature of “after said combined signal reaches a predetermined threshold, distortion is introduced into said combined signal.” (Appeal Brief of 8/8/2008, pgs. 14 and 15).

Appellant’s position in the Appeal Brief is that claim 1 is distinguishable over Okamura (5,652,797) since Okamura does not provide the requisite teaching as to the circumstances relating to introducing distortion (DIST+EQ) into a combined signal. More specifically, Okamura does not teach that distortion (DIST+EQ) is introduced into the combined signal “after said combined signal reaches a predetermined threshold,” as required by claim 1.

In the Examiner’s Answer, the Examiner dodges Appellant’s point with regard to the combined signal and instead latches on to a newly offered inherency contention relating to a threshold. (Exa. Ans. pg. 9). In the Examiner’s Answer, the Examiner freely uses the terms of “inherency,” “threshold,” and “combined signal,” all the while avoiding Appellant’s position. In particular, the Examiner fails to (1) identify where either Levine or Okamura teach a “combined signal”; and (2) how the distortion (DIST+EQ) of Okamura is introduced into this unidentified “combined signal.”

The Examiner also provides assorted comments relating to inherency and distortion. Such comments lack sufficient basis in fact, but further discussion on such deficiencies is

not believed to be warranted in view of the clear error identified above with regard to the “combined signal” feature.

9. Examiner fails to identify support for the rejection

Section A.6 of Appellant’s Appeal Brief included comments relating to the Examiner’s failure to comply with MPEP § 707, which provides:

“... When a reference is complex or shows or describes other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claims specified.” MPEP § 707, citing 37 CFR § 1.104(c)(2).

As repeatedly expressed to the Examiner, Appellant has thoroughly reviewed the Okamura reference and is unable to find any discussion relating to the “after said combined signal reaches a predetermined threshold” feature. (Appeal Brief of 8/8/2008, pg. 15; Response of 1/15/2008, pg. 14).

On page 9 of the Examiner’s Answer, the Examiner fails to identify where Okamura provides such a teaching. The basis for the Examiner’s refusal to comply with MPEP § 707 is that Okamura is “no more complex or different than the applicant’s claimed invention.” (Exa. Ans. pg. 9).

The rejection is believed to be in error since the Examiner refuses to identify where Okamura contains the alleged teaching relating to the “after said combined signal reaches a predetermined threshold” feature. Furthermore, the Examiner’s reference to the complexity of Appellant’s claimed invention is entirely irrelevant.

10. Claims currently in condition for allowance

Appellant submits for the reasons set out in both Appellant's Appeal Brief and this Reply Brief, the rejections are improper and that all of the claims pending in the present application are allowable over the asserted references. Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the decision rejecting the pending independent claims (claims 1 and 26), allow all dependents by virtue of the allowance of their parent, and subsequently direct the Examiner to pass the case to issue.

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